

PLUMBING SPECIFICATIONS
15055 – BASIC PIPING MATERIALS AND METHODS
1. CORE CUT ALL PIPE PENETRATION OF EXISTING MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS WATER TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL ) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2. CAULK AROUND ALL PIPING THAT PASSES THROUGH FIRE-RATED PARTITIONS WITH A NON-HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3. SEAL ALL PIPING THROUGH WALLS AIR TIGHT.
15242 – VIBRATION ISOLATION AND SEISMIC
1. ALL PLUMBING EQUIPMENT AND PIPING MUST BE VIBRATION ISOLATED AND SEISMICALLY BRACED FOR THE SITE SPECIFIC SEISMIC DESIGN CATEGORY AND SEISMIC USE GROUP, IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE BUILDING CODES AND ASHRAE. PROVIDE SEISMIC PRODUCTS BY AMBER-BOOTH OR MASON INDUSTRIES.
2. IN GENERAL, PROVIDE SPRING MOUNTS TO ATTENUATE LOW FREQUENCY SOUND AND VIBRATION. PROVIDE NEOPRENE PADS TO ATTENUATE HIGH FREQUENCY SOUND
3. VIBRATION: SEISMIC BRACING/MOUNTING CAN BE COMBINED WITH VIBRATION ISOLATION AS APPLICABLE.
4. CONTRACTOR MANUFACTURED SEISMIC BRACING/RESTRAINT METHODS ARE NOT ACCEPTABLE.
5. PROVIDE A SIGNED AND STAMPED LETTER FROM A PROFESSIONAL ENGINEER CERTIFYING THAT THE SUPPLIED PRODUCTS ARE CORRECT FOR THE APPLICATION AND THAT THE INSTALLATION IS IN COMPLIANCE WITH ALL APPLICABLE CODES.
15250 – INSULATION
1. PIPE INSULATION: SNAP-ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, FOR INTERIOR WATER PIPING, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. USE 1" THICKNESS FOR PIPE UP TO 2"ø AND 1-1/2" FOR PIPE OVER 2"ø
2. PROVIDE ADA COMPLIANT FIXTURES WITH SNAP ON ADA ARTICLE 4.19 22FF COMPLIANT WHITE INSULATION. TRUEBRO LAY GUARD, BASIN GUARD OR LAY SHIELD.

15411 – WATER DISTRIBUTION PIPING

- ALL ABOVE GROUND HOT AND COLD WATER PIPING: ASTM B 88 TYPE "L" COPPER, WITH WROUGHT COPPER FITTINGS AND SOLDERED WITH 95-5 TIN-ANTIMONY SOLDER.
- INSTALL PIPE HANGERS WITH THE FOLLOWING MINIMUM ROD SIZES AND MAXIMUM SPACING. UPON COMPLETION OF HANGER INSTALLATION, ALL ADJUSTMENTS HAVING THE POSSIBILITY OF TURNING SHALL BE LOCKED SECURELY IN PLACE BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.

NOM. PIPE SIZE-INCHES	MAX SPAN-FT.	MIN. ROD SIZE-INCHES
1	7	3/8
1-1/2	9	3/8
2	10	3/8
3	12	1/2
4	14	5/8
6	17	3/4
- ALL PIPE HANGERS AND EQUIPMENT SUPPORTS SHALL BE LOCATED A MINIMUM DISTANCE OF 2" FROM ANY REFRIGERANT PIPE.
- ALL PLUMBING FIXTURES CONNECTED TO A POTABLE WATER SYSTEM WITH HOSE CONNECTIONS ON THE OUTLET SIDE AND OWNER FURNISHED EQUIPMENT WITH DIRECT CONNECTIONS, SHALL BE PROVIDED WITH BACKFLOW PREVENTION.

15420 – DRAINAGE AND VENT SYSTEMS
1. UNDERGROUND BUILDING DRAIN PIPE AND FITTINGS: A. NO HUB ABS OR PVC PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2235 SOLVENT OR B. ASTM A74 SERVICE WEIGHT, HUB AND SPIGOT CAST IRON SOIL PIPE, OR ASTM A888 (OR CISPI 301) HUBLESS CAST IRON SOIL PIPE WITH ASTM C564 HEAVY DUTY SHIELDED STAINLESS STEEL COUPLINGS. C. NO ASTM D2729 PIPE SHALL USED UNDERGROUND.
2. ABOVE GROUND SANITARY DRAINAGE AND VENT PIPING, IN ALL AREAS EXCEPT AIR PLENUMS AND EXCEPT IN A FIRE RATED BUILDING, SHALL BE ABS TYPE DWV PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2255 SOLVENT, OR PVC PLASTIC PIPE AND FITTINGS PER ASTM D2665 WITH ASTM D2564 SOLVENT, OR SERVICE WEIGHT, NO HUB CAST IRON COUPLED PIPE AND FITTINGS WITH COMPRESSION TYPE NEOPRENE GASKETS AND STAINLESS STEEL BANDS.
3. ALL SANITARY DRAINAGE AND VENT PIPING INSIDE AIR PLENUMS AND ANYWHERE IN A FIRE RATED BUILDING SHALL BE NO HUB SERVICE WEIGHT CAST IRON COUPLED PIPE AND FITTINGS WITH COMPRESSION TYPE NEOPRENE GASKETS AND STAINLESS STEEL BANDS. ASTM B306 COPPER PIPE MAY BE USED WITH SOLDERED JOINTS FOR PIPE 3" AND SMALLER.
4. ABOVE GROUND ROOF DRAIN LINES, EXCEPT IN AIR PLENUMS AND ANYWHERE IN A FIRE RATED BUILDING, SHALL BE ABS TYPE DWV PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2255 SOLVENT, OR PV C PLASTIC PIPE PER ASTM D2665 WITH ASTM D2564 SOLVENT.
5. INSTALL SANITARY DRAIN LINES 2-1/2" AND LESS WITH A SLOPE OF 2%. INSTALL SANITARY DRAIN LINES 3"-6" WITH A SLOPE OF NOT LESS THAN 1%.

PLUMBING SPECIFICATIONS
15420 – DRAINAGE AND VENT SYSTEMS
11. CLEANOUTS A. FINISHED WALL CLEANOUTS: SMITH FIGURE 4472 COMPLETE WITH CAST BRONZE TAPER THREADED PLUG, STAINLESS STEEL COVER AND SCREW. B. FLOOR CLEANOUTS (UNFINISHED AREAS): SMITH FIGURE 4223 DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED CAST IRON TOP, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET. C. FINISHED FLOOR CLEANOUTS (CONCRETE FLOORS): SMITH FIGURE 4023 DUCO CAST IRON CLEANOUT WITH ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP, TAPER THREADED CAST BRONZE PLUG AND SPIGOT OUTLET. D. FINISHED FLOOR CLEANOUTS (CARPETED FLOORS): SMITH FIGURE 4023-Y SAME AS CONCRETE FLOORS WITH CARPET MARKER. E. FINISHED FLOOR CLEANOUTS (TILE FLOORS): SMITH FIGURE 4163 DUCO CAST IRON CLEANOUT WITH SQUARE ADJUSTABLE SECURED NICKEL BRONZE TOP WITH 1/8" RECESS, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET. F. EXTERIOR CLEANOUTS (CLEANOUT TO GRADE): SMITH FIGURE 4253 DUCO CAST IRON CLEANOUT AND DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
12. FLOOR DRAINS: D-1 FLOOR DRAIN: SMITH FIGURE 2010-BP CAST IRON BODY AND FLASHING COLLAR WITH PROTECTIVE CAP AND SQUARE NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED SQUARE HOLE GRATE, AND TRAP PRIMER CONNECTION.
15440 – PLUMBING FIXTURES
1. PROVIDE AND INSTALL CARRIERS AS REQUIRED FOR FLOOR OR WALL MOUNTED PLUMBING FIXTURES. INSTALL ALL FIXTURES WITH ACCESSORIES AS REQUIRED TO PROVIDE A COMPLETE, WORKABLE INSTALLATION.
2. PLUMBING FIXTURES SHALL INCLUDE COMPRESSION STOPS ABOVE FLOOR IN SUPPLIES TO ALL FIXTURES AND A MINIMUM 17 GAUGE P-TRAP.
3. ALL LAVATORIES AND HAND SINKS WILL HAVE A COMBINATION FAUCET OR PREMIXING FAUCET CAPABLE OF SUPPLYING WARM WATER FOR A MINIMUM OF 10 SECONDS.
4. ALL JANITORIAL SINK FAUCETS MUST BE PROVIDED WITH AN APPROVED BACKFLOW PREVENTION DEVICE.

15460 – WATER HEATERS
1. INSTALL UNITS PLUMB AND LEVEL AND FIRMLY ANCHORED PER SEISMIC REQUIREMENTS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. ORIENT SO CONTROLS AND DEVICES NEEDING SERVICING ARE ACCESSIBLE.
2. CONNECT HOT AND COLD WATER PIPING TO UNITS WITH SHUT-OFF VALVES AND UNIONS. CONNECT HOT WATER CIRCULATING PIPING TO UNIT WITH SHUT-OFF VALVE, CHECK VALVE AND UNION.
3. USE DIELECTRIC FITTINGS AND UNIONS WHERE PIPING CONNECTIONS ARE DISSIMILAR METALS.
4. INSTALL VACUUM RELIEF VALVE IN COLD WATER INLET PIPING. EXTEND RELIEF VALVE DISCHARGE TO CLOSEST FLOOR DRAIN. INSTALL DRAIN AS INDIRECT WASTE TO SPILL INTO OPEN DRAIN OR OVER FLOOR DRAIN.
5. PROVIDE AND INSTALL EXPANSION TANK AS SCHEDULED IN DRAWINGS EXPANSION TANK: DIAPHRAGM TYPE, PRE- PRESSURIZED STEEL TANK WITH RELIEF VALVE SETTING @ 120 PSI MAXIMUM PRESSURE.
6. ELECTRICAL CONNECTIONS: POWER WIRING AND DISCONNECT SWITCHES ARE SPECIFIED IN DIVISION 16. CONNECT UNIT COMPONENTS TO GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

DEFINITIONS
NOTE: ALL DEFINITIONS MAY NOT BE USED.
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.
APPROVE: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS TO MAKE THE ITEM FULLY OPERATIONAL.
PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

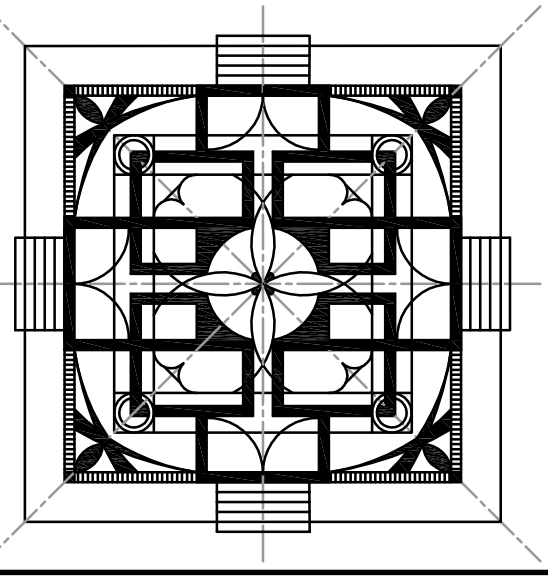
SYMBOL LEGEND	
SYMBOL	DESCRIPTION
PLUMBING PIPING	
_____	SOIL, WASTE – ABOVE GRADE
_____	SOIL, WASTE – BELOW GRADE
-----	VENT
—AW—	ACID WASTE – BELOW GRADE
_____	COLD WATER
-----	HOT WATER
VTR	VENT THRU ROOF
—(E)—	EXISTING PIPE
VALVES, METERS, AND GAUGES	
—X—	SHUT OFF VALVE
—Φ—	BALL VALVE
PLUMBING SYMBOLS	
—Φ—	FLOOR CLEANOUT
REFERENCE AND LINE SYMBOLS	
Ⓝ	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
△	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
P-	PLUMBING FIXTURE INDICATOR.
—V—	BREAK, STRAIGHT
∫	BREAK, ROUND.
-----	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
---.---	CONTRACT LIMIT LINE: DASH/DOT, WIDE LINE.
—●—	NEW CONNECTION POINT TO EXISTING

ABBREVIATIONS			
NOTE: ALL ABBREVIATIONS MAY NOT BE USED			
AD	ACCESS DOOR	MCA	MINIMUM CIRCUIT AMPS
AIR	AIR CONDITION(-ING,-ED)	MFR	MANUFACTURER
COND	AIR PRESSURE DROP	MIN	MINIMUM
APD	BALANCING DAMPER	N/A	NOT APPLICABLE
BD	BRAKE HORSE POWER	NC	NORMALLY CLOSED
BHP	BRITISH THERMAL UNIT	NC	NOISE CRITERIA
BTU	BTU/HOUR	NIC	NOT IN CONTRACT
BTUH	CUBIC FEET PER HOUR	NO	NORMALLY OPEN
CFH	CUBIC FEET PER MINUTE	NPSH	NET POSITIVE SUCTION HEAD
CFM	COOLING	NTS	NOT TO SCALE
CLG	COMPONENT	OA	OUTSIDE AIR
COMP	CONDENS(-ER, -ING, -ATION)	OD	OUTSIDE DIAMETER
COND	CONTROL VALVE	OZ	OUNCE
CV	COLD WATER	PD	PRESSURE DROP OR DIFFERENCE
DIA	DIAMETER	PG	PROPYLENE GLYCOL
DISCH	DISCHARGE	PH	PHASE
DP	DEPTH OR DEEP	PPM	PARTS PER MILLION
DB	DRY BULB TEMPERATURE	PRESS	PRESSURE
EE	EXISTING	PSF	POUNDS PER SQUARE FOOT
EER	ENERGY EFFICIENCY RATIO	PSI	POUNDS PER SQUARE INCH
EFF	EFFICIENCY	PSIA	PSI ABSOLUTE
EG	ETHYLENE GLYCOL	PSIG	PSI GAUGE
ELEC	ELECTRIC	R	THERMAL RESISTANCE
ELEV	ELEVATION	RA	RETURN AIR
ENT	ENTERING	RECIRC	RECIRCULATE
EVAP	EVAPORAT(-E, -ING, -ED, -OR)	REFR	REFRIGERATION
EWT	ENTERING WATER TEMPERATURE	REQD	REQUIRED
EXT	EXTERNAL	RLA	RATED --- AMPS
(F)	FUTURE	RPM	REVOLUTIONS PER MINUTE
F	FAHRENHEIT	RW	RAINWATER
FC	FLEXIBLE CONNECT(-OR, -ION)	SA	SUPPLY AIR
FD	FIRE DAMPER	SC	SHADING COEFFICIENT
FLA	FULL LOAD AMPS	SCFM	STANDARD CUBIC FEET PER MINUTE
FPI	FINS PER INCH	SCW	SOFT COLD WATER
FPM	FEET PER MINUTE	SH	SAFETY FACTOR
FPS	FEET PER SECOND	SL	SENSIBLE HEAT
FSD	FIRE SMOKE DAMPER	SL	SEA LEVEL
FT	FEET	SP	STATIC PRESSURE
GAL	GALLON(S)	SQ(S)	SPECIFICATION(S)
GPM	GALLONS PER HOUR	SQ	SQUARE
HD	GALLONS PER MINUTE	STD	STANDARD
HG	HEAD	STM	STEAM
HR	MERCURY	TEMP	TEMPERATURE
HT	HOUR	TD	TEMP. DROP OR DIFF.
HTG	HEIGHT	THERM	THERMAL
HP	HEATING	TOT	TOTAL
HP	HORSE POWER	TSTAT	THERMOSTAT
HZ	HOT WATER	VOLT	VOLT
ID	HERTZ(FREQUENCY)	VAC	VACUUM
IN	INSIDE DIAMETER	VAV	VARIABLE AIR VOLUME
KW	INCH	VEL	VELOCITY
LAT	KILOWATT	VENT	VENT, VENTILATION
LBS	LEAVING AIR TEMPERATURE	VERT	VERTICAL
LG	POUNDS	VFD	VARIABLE FREQUENCY DRIVE
LH	LENGTH	VOL	VOLUME
LRA	LATENT HEAT	WC	WATER COLUMN
LVG	LOCKED ROTOR AMPS	WG	WATER GAUGE
LWT	LEAVING WATER TEMPERATURE	WTR	WATER PRESSURE DROP
MAX	MAXIMUM	WT	WATER
MBH	THOUSAND BTU PER HOUR	WB	WET BULB TEMP
		YR	YEAR

PLUMBING PIPING GENERAL NOTES
1. PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
2. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
3. ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1), PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
4. PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
5. PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
6. ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COATED.
7. ALL STEEL CLEVIS HANGERS USED TO SUPPORT PLASTIC PIPING SHALL BE PLASTIC COATED.
8. COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE 3/4" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2' PAST LUMBER.
9. ALL EXPOSED PIPING SHALL INSTALLED IN A NEAT ARRANGED PARALLEL TO THE BUILDING TO BUILDING STRUCTURE.
10. ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
11. ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
12. DRAWINGS SHOWS GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
13. ALL VENTS THROUGH ROOF SHALL BE A MINIMUM OF 25 FEET FROM ANY AIR INTAKE.
14. ALL SANITARY DRAINAGE AND WASTE SYSTEM SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
15. ALL ROOF DRAINAGE PIPING SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
16. SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
PLUMBING GENERAL NOTES
1. THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
2. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS IN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGHT SHOWN AND CALLOUT IN BOTH.
3. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AN FEDERAL CODES AN REGULATIONS IN EFFECT.
4. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
5. PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6. ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE THE PIPING SCHEMATICS INCLUDED WITH THE DRAWINGS FOR PIPING CONNECTIONS TO ALL PLUMBING EQUIPMENT. THE PIPING SCHEMATICS SHOW DETAILED CONNECTIONS INCLUDING ALL NECESSARY VALVES, FITTINGS, GAUGES, ETC. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACES BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

PLUMBING SHEET INDEX	
SHEET NO	SHEET TITLE
P.001	PLUMBING COVER SHEET
P.101	PLUMBING FLOOR PLAN AND ISOMETRICS
P.601	PLUMBING SCHEDULES

PLUMBING FIXTURE & EQUIPMENT NOTES
1. SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
2. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE JOB SITE ELEVATION.
3. FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.
4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
5. ALL MOTOR STARTING EQUIPMENT, NOT PROVIDES AS A PART OF THE PLUMBING EQUIPMENT, SHALL BE PROVIDE BY DIVISIONS 16.
6. SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
7. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
8. FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.
9. PROVIDE WATER HAMMER ARRESTERS (WHA-A) AT ALL PIPING CONNECTIONS TO PLUMBING FIXTURES AND PLUMBING EQUIPMENT PROVIDED WITH QUICK CLOSING VALVE AND INSTALLATIONS WHICH RESULT IN EXCESS VIBE VIBRATION OR MOVEMENT.
10. ALL OWNER FURNISHED EQUIPMENT WITH DIRECT CONNECTION TO THE DOMESTIC WATER SYSTEM SHALL BE PROVIDED WITH AN APPROVED BACKFLOW DEVICE.
11. INSTALLATION AND FINAL CONNECTION OF ALL OWNER FURNISHED EQUIPMENT SHALL BE BY DIVISION 15.



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STAMP

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 38508  
EXPIRATION DATE: MARCH 03, 2012

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PROJECT PHASE		
BID DOCUMENTS		
PROJECT TITLE		
A.O.C. TENANT BUILD-OUT		
2001 COMMERCE PARK DR., SUITE 2001-B ANNAPOLIS, MD 21401		
REVISIONS		
SYMBOL	DATE	ISSUED FOR
△	10.21.11	PERMIT REVISION
PROJECT NUMBER		11-160
DATE		9.1.11
SCALE		AS NOTED
DRAWING TITLE		
PLUMBING COVER SHEET		
SHEET NUMBER		
P.001		